5. Facilities for handling chlorinated hydrocarbons should be upgraded.

IV. Narration

On 12-4-72, Mr. Tom Kearns and Bert Bates of TWQB, District 7 office were in the Freeport area and noticed a very poorly operated landfill operated by Dow Chemical Company. I realized from the certificate that it was the A-1 site.

An inspection was made on 12-13-72. The site was very muddy, due to recent rains. Site A-1 is a low area adjacent to the dike along the Dow barge canal near Surfside Beach. It contains a large pond of water into which various materials are dumped. The pond has an effluent which flows into a roadside ditch, which flows through a series of ditches to a sump, where it is pumped to Plant A outfall.

On 12-4-72, Mr. Kearns sampled the effluent where it came out of the pond. On 12-13-72, I sampled it at a culvert, about 100 yards downstream. The analyses indicate a very high chloride content with high BOD, volatile suspended solids, and COD. The BOD is low, due to toxic effects of the salinity or other compounds. The effluent from site A-1 needs to receive secondary treatment which Plant A wastewater, at the present time, does not receive.

Mr. McKeever said the A-1 site was formerly a pit used to store drummed organic waste and heavy organics.

The current industrial solid wastes being handled at the site are plant trash (paper, wood, metal) and magnesium cell sludge (calcium carbonate and calcium sulfate) hauled in by vacuum trucks and dump trucks. The plant trash is mainly deposited in the higher area of the site, but some has been deposited in the water. It had not been compacted and covered for several weeks. One reason is because it was too widely dispersed over the site to readily compact and cover. I advised Mr. McKeever and Mr. Cutshall that dumping needed to be done in a confined area, so that compaction and coverage were easy to do. This enables an operator to do a much better job, particularly in wet weather.

The magnesium cell sludge is dumped directly into the flooded pit. These are solids that have been removed from the effluents as required by TWQB directives on the W.C.O.

The volume of solid wastes handled at site A-1 is unknown, because Dow does not keep accurate records. I estimate the plant trash to be 400-500 cubic yards per day. The magnesium cell sludge is a considerable volume.

Site A-2 contains several pits. One pit is used to dump asbestos shorts from the diaphragm process for chlorine. Also, several pits containing chlorinated hydrocarbon wastes were present. They had an odor and about 18 inches of freeboard. The stormwater was disposed of by evaporation, which the enclosed weather data from the Texas A&M Experiment Station at Angleton indicates is not feasible.

Site B-1 has a new pit for magnesium cell sludges and nine chlorinated hydrocarbon waste pits.

An inspection was also made of the incineration area. It had the following pieces of equipment:

1. Three flare burners for hydrocarbons.

2. One chlorinated hydrocarbon incinerator with caustic scrubber.

3. One modified Dupont open incinerator used to burn 1,000 pound boxes of polyethylene.

4. One incinerator with stack and afterburners for polyethylene, polyurethane, and grease.

A search of the District 7 files failed to reveal any soil borings for site A-1. These are needed, because of the organic wastes in the site.

I requested that Dow Chemical Company furnish me with current volumes of wastes going to each site and engineering drawings of the pits at each site. Several new pits have been dug recently. I have not received this information as yet. I reminded Mr. McKeever of it on 1-12-73.

Enclosed with this memo are two data sheets on the effluent from Site A-1. A metals analysis has also been requested, but has not been received as yet.

Also enclosed are some photos taken by Mr. Kearns.

Rainfall and evaporation data from the Texas A&M Agricultural Experiment Station at Angleton are also enclosed.

Dow Chemical Company needs to upgrade their industrial solid waste handling methods. The storing of chlorinated hydrocarbons and other organics in open pits is not a good practice in this wet climate. More incineration capacity is needed for these wastes.

Another inspection will be made in January, 1973 and more detailed information obtained.

Signed Clarence E. Johnson

Date January 15, 1973

CEJ:pb
Attachment